

WHAT IS CLAIMED IS:

1. A process for antifelt finishing of wool comprising
 - (a) exposing the wool to a plasma in a pretreatment, and
 - (b) treating the plasma-treated wool with an aqueous dispersion of cationic polyurethanes.
- 5 2. A process according to Claim 1 wherein the plasma treatment of the wool in step (a) is effected either as a low temperature plasma treatment at reduced pressure or as a corona treatment at normal pressure.
- 10 3. A process according to Claim 1 wherein the cationic polyurethanes have a weight average molecular weight of at least 14,000 and the upper limit of the molecular weight is 200,000.
4. A process according to Claim 1 wherein the cationic polyurethanes are obtained by reaction of
- 15 (i) organic polyisocyanates of the formula (I)
$$Q[NCO]_p, \quad (I)$$
where
p is from 1.5 to 5, and
Q is an organic radical, and
- 20 (ii) one or more bis- and/or polyhydroxy compounds containing at least one tertiary nitrogen atom and at least two hydroxyl groups, wherein the cationic character of the polyurethane is generated by subsequent protonation or alkylation of the tertiary nitrogen atoms.
- 5 6. A process according to Claim 4 wherein the cationic polyurethanes are prepared by additionally using
- 25 (iii) one or more bis- and/or polyhydroxy compounds containing no nitrogen atoms and having molecular weights of 62 to 5,000.
6. A process according to Claim 4 wherein the bis- and/or polyhydroxy compounds (ii) are those of the formula (II)
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$$HO-(CHR^1)_m-NR^2-(CH_2R^1)_n-OH \quad (II),$$
where
n and m are independently from 1 to 6,

R^1 is in each case independently hydrogen or a straight-chain or branched C_1 - C_4 -alkyl radical wherein, along the $(CHR^1)_n$ and $(CHR^1)_m$ alkylene chains, R^1 can alternately from carbon atom to carbon atom be not only hydrogen but also a straight-chain or

5 branched C_1 - C_4 -alkyl radical, and

R^2 is straight-chain or branched C_1 - C_{10} -alkyl, C_1 - C_{10} -cycloalkyl, C_6 - C_{12} -aryl, or a $-(CH_2)_r-OH$ radical in which R is from 1 to 6.

7. A process according to Claim 4 wherein the bis- and/or polyhydroxy compounds (ii) of the formula (II) are N-methyldiethanol-10 amine, N-ethyldiethanolamine, N-butyldiethanolamine, N-methyl-dipentanolamine-1,5, N-ethyldipentanolamine-1,5, triethanolamine, reaction products of fatty amines with two moles of ethylene oxide or propylene oxide, or alkoxylation products thereof.

8. A process according to Claim 5 wherein the bis- and/or polyhydroxy compounds (iii) are ethylene glycol, propanediol-1,2, propane-15 diol-1,3, butanediol-1,4, butanediol-1,3, butanediol-2,3, butanediol-1,2, butenediol-1,4, butynediol-1,4, pentanediol-1,5, neopentyl glycol, hexane-1,2,5, hexanediol-1,6, 3-methylpentanediol-1,5, 2,5-dimethylhexane-2,5-diol, octadecanediol-1,12, diethylene glycol, dipropylene glycol, triethylene 20 glycol, tripropylene glycol, tetraethylene glycol, tetrapropylene glycol, and higher polyethylene and polypropylene glycols, glycerol, trimethylol-propane, 2-hydroxymethyl-2-methyl-1,3-propanediol, 1,2,6-hexanetriol, or pentaerythritol.

9. A process according to Claim 1 wherein the cationic 25 polyurethanes are obtained by reaction of

(i) organic polyisocyanates of the general formula (I)

$Q[NCO]_p$, (I)

where

p is from 1.5 to 5, and

30 Q is an aliphatic hydrocarbon radical having 2 to 18 carbon atoms, a cycloaliphatic hydrocarbon radical having 4 to 15 carbon atoms, an aromatic hydrocarbon radical having 6 to

15 carbon atoms, or an araliphatic hydrocarbon radical
having 8 to 15 carbon atoms, and

(ii) bis- and/or polyhydroxy compounds (ii) of the general formula (II)

HO-(CHR¹)_m-NR²-(CH₂R¹)_n-OH (II),

5 where

n and m are independently from 1 to 6,

R¹ is in each case independently hydrogen or a straight-chain or
branched C₁-C₄-alkyl radical wherein, along the (CHR¹)_n and
(CHR¹)_m alkylene chains, R¹ can alternately from carbon

10 atom to carbon atom be not only hydrogen but also a
straight-chain or branched C₁-C₄-alkyl radical, and

R² is straight-chain or branched C₁-C₁₀-alkyl, C₁-C₁₀-cycloalkyl,
C₆-C₁₂-aryl, or a -(CH₂)_r-OH radical in which r is from 1 to 6,

and the cationic character of the polyurethanes is generated by

15 protonation or alkylation of the tertiary nitrogen atoms.

10. A process according to Claim 1 wherein the cationic
polyurethanes are obtained by reaction of

(i) 2,4-toluene diisocyanate or 2,6-toluene diisocyanate or mixtures of
these isomers with

20 (ii) N-methyl- or N-butyldiethanolamine,

wherein the cationic character is generated by treating the reaction
products with hydrochloric acid, sulfuric acid, formic acid, acetic acid, or
propionic acid.

11. A process according to Claim 1 wherein step (b) is effected
25 by applying the aqueous dispersion of the cationic polyurethane to the
wool at a pH of 2 to 7.

12. A process according to Claim 1 wherein the concentration of
the aqueous dispersion of the cationic polyurethane, based on the solids
content of polyurethane, in the finishing liquor is 0.5 to 75 g/l.

30 13. A nonfelting wool obtained by the process of Claim 1.